

ABSTRACT

Mechanical refrigeration systems, including ice machines, having increased effective operating range. The ability to operate over a wide range of heat transfer capacity allows the system controller to conserve energy by closely matching the refrigeration capacity and the heat load. In applications where the refrigeration system is being operated from low-grade power or small power grids, the refrigeration capacity may be adjusted to control the amount of electrical energy taken from the grid. For the more specific application where ice is being manufactured, to maintain product quality the varying refrigeration capacity of the system must be followed by a variance in the heat load that is applied to the system.